



Search for

[Limits](#) [Preview/Index](#) [History](#) [Clipboard](#) [Details](#)

About Entrez

Text Version

Entrez PubMed
Overview
Help | FAQ
Tutorial
New/Noteworthy
E-Utilities

PubMed Services
Journal Browser
MeSH Browser
Single Citation Matcher
Batch Citation Matcher
Clinical Queries
LinkOut
Cubby

Related Resources
Order Documents
NLM Gateway
TOXNET
Consumer Health
Clinical Alerts
ClinicalTrials.gov
PubMed Central

Privacy Policy

☐ 1: Receptors Channels 1997;5(3-4):159-74

[Related Articles, Books, LinkOut](#)

Identification of class-determining residues in G protein-coupled receptors by sequence analysis.

Kuipers W, Oliveira L, Vriend G, Ijzerman AP.

Department of Medicinal Chemistry, Solvay Duphar B.V., Weesp, The Netherlands.

G protein-coupled receptors (GPCRs) form a large superfamily of receptors that are characterised by a seven transmembrane helical motif. The functions they perform, such as binding ligands and G proteins, are related to the presence of certain amino acids in critical positions. We have developed a computational sequence pattern correlation technique for the recognition of such function-determining residues. The method searches for residues that are conserved in one class of proteins with a certain function but are different in other classes. The basic idea is that such residues are probably involved in this particular function. This technique was used to find residues that play a role in the binding of endogenous as well as exogenous ligands to various receptors. Many of the residues that were detected have been experimentally determined as important for ligand binding. More importantly, however, we also detected residues that are interesting targets for future mutation studies aimed at elucidating the sequence-function relationship in GPCRs. The information obtained may help improve three-dimensional GPCR models and can be useful for the study of receptor-ligand interactions.

PMID: 9606720 [PubMed - indexed for MEDLINE]

[Write to the Help Desk](#)
[NCBI | NLM | NIH](#)
[Department of Health & Human Services](#)
[Freedom of Information Act | Disclaimer](#)

i686-pc-linux-gnu Jul 16 2002 16:34:53